

me, they were probably very old stories to the Gray Herbarium. Four, however, turn out to have significance.

On the right bank of Barachois Brook near the mouth *Hydrocotyle americana* L. was abundant. Rare? Hardly likely. Yet now Professor Fernald tells me that my specimens are the first from Newfoundland. Beside the cabin at Force le Plain pool on Harry's Brook grew handsome clumps of an *Anemone* taken to be *A. virginiana* L. Professor Fernald says it is *A. riparia* Fernald, not before found in Newfoundland. New also is *Impatiens pallida* Nutt. which grew luxuriantly on Crabbes Brook at the entrance to the path which leads from Whitecliff Pool (1 mile above the railroad bridge) to Crabbes station. And new an unfamiliar *Potamogeton* pulled up with a handful of *P. bupleuroides* near the bridge pool on Highlands Brook. This proved to be *P. subnitens* Hagström, a hybrid between *P. bupleuroides* Fernald and *P. gramineus* L.

Four plants not previously reported from the island make, I submit, as satisfying a season's catch as did the salmon and trout long since devoured. Of *Lotus corniculatus* L. and *Crepis biennis* L., also found there for the first time, the less said the better except to hope, for the sake of Newfoundland farmers, that I pulled up the sole specimens of each and that they will never be found there again.—  
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## A NEW LOCO FROM THE EDWARDS PLATEAU OF TEXAS

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### INTRODUCTION

From about the middle of March to the middle of May of this year (1929) a survey of the loco plants of western Texas and southern New Mexico was made by the Bureau of Animal Industry of the U. S. Department of Agriculture. Through the courtesy of Dr. C. D. Marsh, under whose direction the work was done, and his associates of the Department of Agriculture an opportunity was afforded the Texas Agricultural Experiment Station to coöperate in this important work, and this opportunity was gratefully accepted. Thus it was the writer's good fortune to have a small share in this undertaking, and

he wishes, both on behalf of the Texas Station and of himself, to express deep appreciation of the consideration and courtesy shown to us in this matter.

Each of the five field workers engaged in this survey was allotted a definite territory to cover, and the area worked by the writer consisted of that portion of the Edwards Plateau lying east of the Pecos River. This paper is a contribution to the knowledge of the distribution of loco in that area as gained through the prosecution of this work. In the identification of species the writer has been greatly assisted by Dr. Ivan M. Johnston of the Gray Herbarium.

#### DESCRIPTION

***Astragalus argillophilus*** Cory, sp. nov. Perennial, decumbent, in vigorous specimens as much as a meter across, much branched from a woody root and with the tips of fruiting branches ascending or erect, densely silky-villous throughout and tomentose; stipules 10 mm. long, whitish, membranaceous, prominently green-veined, long-acuminate, adnate to the petiole; leaves 10–20 cm. long with long petioles and about 11 or 12 pairs of leaflets, villous throughout with weak, spreading hairs; leaflets 19–29, 4–15 mm. wide and 7–30 mm. long, elliptic to ovate, acute, entire, villous-tomentose on both surfaces; flowers in dense axillary racemes, which are 4–12 cm. long; peduncles 10–20 cm. long, with pedicels 1 mm. long subtended by very villous subulate bracts 5 or 6 mm. long, or as long as the calyx-tube; calyx cylindric, 9–12 mm. long, the subulate teeth nearly equaling the tube, villous; corolla ochroleucous, rarely yellow or purplish, about 15 mm. long, the wings and banner considerably surpassing the obtuse keel; pod 15–20 mm. long and 6–7 mm. broad, shortly stipitate, coriaceous, completely 2-celled, several-seeded, sulcate at both sutures, acute to acuminate, at length incurved, ascending, glabrous.

Specimens of this species were collected in Sutton, Schleicher, Crockett, Irion, Reagan, and Upton counties, the total number of sheets being 152. The TYPE specimen, No. 134, was collected May 5, 1929 from a northern tributary of Bates Draw at a point six miles north of Big Lake in Reagan County, Texas. It is deposited in the herbarium of the Texas Agricultural Experiment Station at College Station, Texas. Authentic material has been deposited in the Gray Herbarium.

This species is related to *A. mollissimus* Torr., with which it agrees in having glabrous fruit but differs in having yellowish-white flowers and the calyx teeth nearly equaling the tube. While these differences are quite distinctive neither species occurs within the range of the other one and, moreover, one grows in sandy soils and the other grows in clayey soils.

## DISCUSSION

The new species grows in clayey soils in grass-land along draws and in depressions or lake-beds on the divides, but not in weedy valleys or weedy lake-beds; and it is limited in distribution to the northwestern part of that portion of the Edwards Plateau lying east of the Pecos River. It occurs as far south as  $2\frac{1}{2}$  miles below the north line of Sutton County near its northwestern corner, as far east as 3 miles south of Mertzon in Irion County, as far north as the north line of Reagan County, and as far west as 6 miles southwest of Rankin and 6 miles northwest of Upland in Upton County.

Outside of the territory thus outlined a collection of this loco was received from an isolated station about fifteen miles southeast of Sterling City. While this collection was from along the North Concho River the writer was unable to find any loco along this stream or its tributaries in Sterling County. From this station to the south and southwest it is thirty miles or more to the nearest occurrence of loco on the tributaries of the Middle Concho River. This collection was received in the mail after the writer had visited the North Concho River drainage area and had come to the conclusion that the same was free from loco, or otherwise a more inclusive inspection would have been made. As it was, that portion of this area lying northwest of Sterling City was not visited at all. From this circumstance it seems possible that other scattering outposts of this loco may be located in the North Concho River drainage area.

Other species of loco grow both to the west and to the north of this one, but apparently intervening is a wide belt wherein no loco grows. *Astragalus argillophilus* does not extend to the Pecos River, its nearest approach to the same being about twelve miles from it on Five Mile Creek in Upton County; and it has not been reported from the western side of that river, nor does it reach the boundary of the Edwards Plateau and the High Plains. A detailed study of the southern limit of *Astragalus mollissimus*, the loco plant extending furthest south on the High Plains, has not been made, but that species has not been found on the Edwards Plateau.

The species described herewith is definitely known as a loco plant by reason of authenticated instances of horses, cattle, and goats becoming locoed through feeding upon it. It has at no time caused any extensive losses, and those occurring have been confined largely to horses and steers in seasons of short range.

In certain localities much determined effort has been made toward the eradication of this species, but its complete extermination will be long delayed if, indeed, it ever takes place.

TEXAS AGRICULTURAL EXPERIMENT STATION.

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CONTRIBUTIONS FROM THE GRAY HERBARIUM OF  
HARVARD UNIVERSITY—NO. LXXXVII

I. *LIGUSTICUM SCOTHICUM* OF THE NORTH ATLANTIC  
AND OF THE NORTH PACIFIC

M. L. FERNALD

(Plates 193 and 194)

THE Scotch Lovage, *Ligusticum scothicum* L., is generally treated as having two widely separated areas of distribution, one on the North Atlantic: the coasts of Scandinavia, the British Isles and Iceland at the east and of southern Greenland, Labrador, eastern Canada, New England and southeastern New York at the west; the other on the North Pacific: southern Alaska and Kamtchatka to Japan. The two areas are, obviously, quite isolated; and, whenever I have had for identification material from the North Pacific, I have at first failed to recognize it as *Ligusticum scothicum*, for in its small and compact convex-topped flowering umbels it has always seemed very different from the plant I have intimately known for forty years on the shores from Long Island to Labrador, the latter plant having the primary umbels much broader and flat-topped. From time to time I have undertaken a closer comparison of the plants of these two remote areas but, owing to lack of mature fruit of the plant of the North Pacific, have as regularly abandoned the study. Recently, however, realizing that the great student of the Kamtchatkan flora, Dr. Eric Hultén of the Riksmuseum at Stockholm, must have before him abundant material of both plants, I referred the question to him. My attempt thus to delegate the problem, however, proved a "boomerang"; Dr. Hultén responded by supplying me with excellent fruiting material from Kamtchatka and from Japan, thus encouraging me to look further into the question. The result of this renewed study is the proposal of

*LIGUSTICUM Hultenii*, n. sp. (t. ), *L. scothicum* simulans; foliolis